Making long-term cooperation decision based on bilateral inter-organizational trust: Evidence of Mongolian SMEs

Tae Kyung Park\textsuperscript{a}, Idersuren.B\textsuperscript{a1} and Sainbileg.G\textsuperscript{b}

\textsuperscript{a} School of Business, Yeungnam University, 214, Dae-Dong, Gyeongsan-city 712-749, South Korea  
\textsuperscript{b} Business Administration Department, Institute of Finance and Economics, Ulaanbaatar-city 49, Mongolia

Abstract  This paper investigates inter-organizational bilateral trust is an important phenomenon for long-term cooperation. In order to be stable or permanent the cooperation, inter-organizational trust should be reciprocal as well as similar concept of ‘Prisoner Dilemma game theory’. Also, we considered reasons of why transaction costs are higher in developing markets are related with inter-organizational lower level trust. The hypothesized model tested on a sample 411 firms with a Mongolian SMEs. In conclusion, a result of the study demonstrates whether partner firms’ trust with other partner would be higher, the firms willing to continue their cooperation for a longer time.

Key words: Game theory; Transaction cost economies; Capability; Inter-organizational trust; long-term cooperation, SMEs

1. Introduction

A business relationship can generally be considered as gaining competitive advantages of firms on the current turbulent markets. Although valuable tangible and intangible resources exchanging, or other economic exchanges between firms are majority reasons for being the business cooperation, inter-organizational trust’s contribution is not a small part of it.

There is a vast amount of literature addressing issues for inter-organizational trust (e.g., (Akbar Zaheer, Bill McEvily and Vincenzo Perrone, 1998) (Bhattacharya, 1998) (Rekha Krish nan, Xavier Martin & N. G. Noorderhaven, 2006)). Inter-organizational trust had discovered from interpersonal trust perspective, it is a similar phenomenon with interpersonal trust (Zucker, 1986). We follow an inter-organizational trust definition as Gulati, (1995) ‘a type of expectation that alleviated the fear the one’s exchange partner will act opportunistically’. Several numbers of studies have been examined inter-organizational trust with game theory (Jan B. Hide and George John, 1990). In this study, we considered inter-organizational trust has similar characteristics with ‘Prisoner Dilemma Game theory’ (Rappaport, A. & Chammah, A. M, 1965). It implicates that all exchange partners’ higher-level trusts willing to keep going on the cooperation for longer time.

For exchange relationships, Transaction cost economic theory has been remarkably contributed (Coase, 1937; Williamson, 1985). Crowded numbers of literatures have been focusing on the TCE for last decades. In this study, we explained reasons of why transactions costs are higher in most of exchanges are associated with inter-organization trust level. Therefore, a firm’s capability is a critical dimension for exchanging relationships (Barney J., 1991).
Purpose of the study is to address the question how long-term cooperation is related with inter-organizational trust, and how the trust could be improved. The rest of this article is organized as follows. Section 2 draws the theoretical perspective such as long-term cooperation, the TCE, capability, and inter-organizational trust. Section 3 develops hypotheses regarding the relationship among dimensions. Section 4 then introduces the sample, measures, and analysis process used in this study. Final Section 5 presents the empirical results. Conclusions, along with theoretical and practical implications, limitations, and future research directions are in Section 5.

2. Literature review

Basically, cooperation is two more firms’ exchanging relationship. Because recent markets characteristics are high competitive, speed turbulent, organizations should be higher innovator, creator, or high-quality products and services in order to be gained competitive advantage. Particularly, this situation is touchingly facing to SMEs, which are going on starting up ways, or inadequate experience on the industry. Therefore environmental changes (e.g. technologic tremendous development) crucially desire speed adaptation and creation challenges from the firms, and it is totally associated with knowledge and resource etc. Numerous of studies have suggested that most of firms involve in innovativeness and learning inter-organizational cooperation because of above reasons in recent periods. Antonia Albani and Jan L.G. Dietz, (2009) described that Inter-organizational collaboration is ‘the relationship between business partners, in which each enterprise learns and profits from its partners in order to better achieve its own goal’. Cooperation is able to give such big advantages to partner firms as improving market positions, acquire new knowledge and resource (Das, T.K & Teng, B.S, 2000), and enter to new markets (Ranjay Gulati & Harbir Singh, 1998) etc. Even though there are many advantages of cooperation, organizing the exchanging relationship is very complicate. Because more than two firms are involved in exchanging relationship, and all they have individual goals, reasons of collaborative, and behavioral components. By this reasons, cooperation is often facing to dark situations such as conflicts, misunderstandings, less faith, or whatever between partners.

During past decades, many kinds of exchanging relationship have established, very larger cases of termination or unsuccessful cooperation have been addressed on the markets. For instance, previous studies, which were focused on cooperation failure, show more than 50 percent of unsuccessful or short-term cooperation (Killing, 1983; Kogut, 1988; Das, T.K & Teng, B.S, 2000). At the same time, there are also very famous successful relationships have still existed on the markets (e.g., McDonalds and Coca-Cola). However, achieving the goal of cooperation is most important crucial for each partner during the relationship periods. Two majority demonstrations are seen from higher successful relationships such that: (1) sustained inter-organizational relationships–if the cooperation could be achieved initial goal of the relationship or contractual agreement, the partner firms try to re-cooperation with old partners, and (2) If there is higher re-cooperation between firms, the relationship exchanges would be longer than other cooperation. There are several acceptable reasons for sustained cooperation or long-term relationship such as: (1) gain competitive advantages, (2) less costs – there is no costs of establishing new cooperation, (3) each partners’ expected to perform its activities faithfully, (4) all partners are willing to make or exchange investments, and (5) the cooperation has low possibilities to suffer unplanned termination etc. Generally, inter-
organizational relationships are multifaceted and multiplex (Xu Jiang, Shanxing Gao and Yuan Li, 2008), and involve many components (e.g., trust, commitments, and interdependence). Our consideration here is that inter-organizational trust is a critical component for existing long-term cooperation. View of past decades researches were divided into bilateral and unilateral studies. For instance, traditional researchers have focused on unilateral studies (Gulati, 1995), and recent studies have been focused on bilateral studies (Das, T. K. & Teng, B. S, 1999; Jeffrey H. Dyer & Wujin Chu, 2000). In this study, we focus on bilateral inter-organizational trust, and it is a crucial role for long-term success cooperation.

Sustained relationships always imply the adoption of long-term orientation towards the relationship (Dwyer, F. R., Schurr, P. H., & Oh, S., 1987). Celly, K.S., et al. (1999), And proposed that relationship stability includes two aspects: relationship length and relational attitude. Relationship length refers to the number of years in inter-organizational cooperation. Relational attitude is both parties overall attitude toward exchange relationship with each firm. A long-term working relationship is depended on engagement of cooperation firms by both parties. Several of scholars have explained that cooperation relationship is similar to a marriage relationship, and a long-term working relationship is directly associated with the development of trust (James C. Anderson & James A. Narus, 1990; Ganesan, 1994).

We use game theory for decision making of long-term working cooperation. The most famous case of game theory is ‘Prisoner’s Dilemma game’ (Rappaport, A. & Chammah, A. M, 1965), ‘two players each choose whether to “cooperate” or “defect” in the absence of knowledge of what the other player will do. The incentive structure of the game is set up so that (1) it pays to defect no matter what you think the other player will do, and yet (2) if each player defects, they both end up with less than they would have gotten had they jointly cooperated. The crucial feature is that the players can gain more from joint cooperation than from joint defection, but they would gain even more individually if they could defect while their partner cooperates.’ For instance, if trust level between firm ‘A’ and firm ‘B’ is highest, both firms want to be continuing for long-term working cooperation. If trust of firm ‘A’ and firm ‘B’ is lowest, both firms not willing to be continuing a cooperation, and find new supplier or buyer. Several scholars have utilized the Game theory for inter-organizational trust research. For instance, the time framework of relationship-affected cooperation, as an iterated games perspective would predict (Jan B. Heide & George John, 1992), ‘prisoner’s dilemma’ model used that how trust and opportunism affect the level of perceived risk in the banking industry ( Robert Dahlstrom; Arne Nygaard; Maria Kimasheva & Arne M. Ulvnes, 2013).

Inter-organizational trust: Trust is a great deal of broad scholarly fields, and it has been increasingly examined with management and economical theoretical perspectives since end of 1980. Numerous of scholars attempted to describe inter-organizational trust’s exactly definition, and they
have examined inter-organizational trust with other sciences such as economic, management fields, psychology and whatever. For instance, James C. Anderson & James A. Narus, (1990) have examined by various management theories, Jan B. Hide and George John, (1990) by transactions cost economies, Jan B. Heide & George John, (1992) by game theory, Akbar Zaheer, Bill McEvily and Vincenzo Perrone, (1998) by psychological and sociological theories and Mellewigt,T.,Madhok, A., & Weibel,A., (2004) by resource-based view. Scholars have argued that two concepts of trust such as rational and relations, and organizational study operates one of the two of these concepts. The rational perspective is as a behavioral choice, and it suggests that involvement of trusting relationship is a deal of rational choice of an appropriate action among possibilities (E.S. Ralston & S.A. Chadwick, 2010). Relational view concentrate upon social characteristics, it suggests that trust possesses certain calculative characteristics, and not-calculative trust can be described as a motivation for a voluntary exposure to risk, as opposed to trust that is conditioned by a possibility of a loss (Cummings, L. L. & Bromley, P., 1996).

Owing to globalization and internationalization, inter-organizational relationship has been dramatically developing. Despite, various items of business communication try to be stable or success the relationship. The most natural and influencer factor is trust for this issue. Though, several of scholars have tries to define inter-organizational trust definition, most common used one is ‘Inter-organizational trust is the extent to which members of one organization hold a collective trust orientation toward another organization’ (Akbar Zaheer, Bill McEvily and Vincenzo Perrone, 1998). From views of past research papers, which are related inter-organizational trust, we can define roles of the trust by various characteristics, and especially in inter-organizational relationship: (1) safeguarding role–inter-organizational trust is one of inevitable factors for uncertainty situation of economic exchange relationship. The inter-organizational trust can be against high level of opportunism (Gulati, 1995; Young-Ybarra, C., & Wiersema, M., 1999), and therefore, it interacts with higher asset specificity to increase the extent of hierarchical governance (Akbar Zaheer and N. Venkatraman, 1995), (2) reducing role of transaction-costs (information costs, negotiation cost, monitoring cost etc.) – inter-organizational trust can influence on economic exchange relationships’ costs (Jeffrey H. Dyer & Wujin Chu, 2003), (3) constitutive role–trust is central understating in structuring of inter-organizational relationship (Peter Smith Ring and Andrew H. Van De Ven, 1992) and trust directly impacts on the choice of governance structure in inter-organizational relationship (Ranjay Gulati & Harbir Singh, 1998).

Transaction-cost economies perspective (TCE): Over past decade, one of the most famous perspectives in economic theories is transaction cost economies perspective, and therefore, it has received attention in from a broad of literatures. Most prior study of transaction cost economies’ propositions was that firms and markets are alternative governance structures that differ in their transaction costs (Coase, 1937). Williamson O. E., (1985) conducted more appropriately types of exchanges within firm boundaries than within the market. His framework rests on the interplay between two main assumptions of human behavior (i.e., bounded rationality and opportunism) and two key dimensions of transactions (i.e., asset specificity and uncertainty).
Bounded rationality assumption refers that although economic actors often intend to act rationally, this intention may be circumscribed by their limited information processing and communication ability (Simon, 1957). Whether bounded rationality did not exist, all economic activity could be efficiently organized by contracts (William Q. Judge & Robert Dooley, 2006). Our understanding here is that whether economic actors can believe other actors not to behave opportunistically, and then it will be more willing to share confidential information. Information sharing is voluntary process if inter-firms’ trust level would be high, and conservation thinking would be positive such that sealing ideas or will not attempt do any offensive.

Opportunism is behavioral assumption refers that economic actors may unscrupulously seek to serve their self-interests, and that is difficult to know a priori who is trustworthy and who is not (Barney J. B., 1990). Williamson O. E., (1985) defines opportunism as “self-interest seeking with guile”. Whether opportunistic behavior level would be high in any inter-organizational relationship, the relationship’s business strategic planning implementation process would be more difficult, and cooperating term will be harmfully short. There are many kinds of cumbersome results of opportunism in the inter-organizational cooperation, and numerous of studies have defined that negatively related with strategic cooperation (William Q. Judge & Robert Dooley, 2006),

TCE suggests firms face two types of uncertainty: behavioral and environmental (Williamson, 1985). Environmental uncertainty refers to as defined by (Thomas G. Noordewier, George John, & John R. Nevin, 1990) “unanticipated changes in circumstances surrounding an exchange”. For sustainable development of organizations, environment uncertainty seems to be the most problematic as the inability to predict changes. Behavioral uncertainty refers to “as degree of difficulty associate with assessing the performance of transaction partners” (Aric Rindfleisch & Jan B. Heide, 1997). Numerous of studies also defined behavioral uncertainty as fundamentally an issue of performance assessment (Jan B. Hide and George John, 1990).

Capabilities: Protecting possible source of competitive advantage on the market is caused by a firm’s capability (Barney J., 1991). A firm’s capabilities refer to “the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources for the purpose of achieving a particular end result” (E. Helfat and M. A. Peteraf, 2003). There are three core capabilities of a firm: (1) resources, which include people, equipment, technology, product designs, brands, information, cash, and relations with external partners; (2) processes, which are the methods/activities used to transform inputs into higher value outputs and include the patterns of interaction, coordination, communication, and decision-making in the organization; and (3) values, which are the criteria used for decision-making or the mindsets of the decision makers (Christensen, 1997). According to (Leonard-Barton, 1992), core capabilities of the firms have four dimensions: (1) employee knowledge and skill; (2) technical systems; (3) the managerial systems that guide the knowledge creation and control processes; and (4) the values and norms associated with these processes. One of the most important roles among a firm’s core capabilities is how to integrate, gain, and release various resources that possess for the firm, and several studies have extended Resource-based view (RBV) through perspective of capabilities in order to respond market change. RBV’s main concept focuses on how sustained competitive advantage is generated by the unique bundle of resources at
the core of the firm (Barney J., 1991; Conner, K. R., & Prahalad, C. K., 1996). However, core capabilities’ dimensions can create new resource configurations as markets emerge, collide, or whatever. Wernerfelt, (1984) suggested that “resources and products are two sides of the same coin” and presents the possibility that by specifying a resource profile for a firm, it would be possible to find the optimal product-market activities (p.171). Resources can yield for sustained competitive advantage: (1) valuable; (2) Rare; and (3) Isolated from imitation or substitution (Barney J., 1991; Peteraf, 1993; Wernerfelt, 1984).

Capability-based theories seem particularly appropriate for inter-organizational relationship such that firms use cooperation types to gain to other firms’ valuable resources and capabilities, and to take possible competitive advantaged in the market. Especially, small and medium firms that are not available to create stronger innovation, knowledge or other resource by their resources and capabilities integrate their capabilities for to acquire competitive advantage.

3. Development hypotheses

The role of trust on inter-organizational cooperation is a crucial important factor, and whether it is based on non-contractual economic exchange, its economic value is strong. Numerous of studies have examined economic role of trust (Jay B. Barney and Mark H. Hansen, 1994; Akbar Zaheer, Bill McEvily and Vincenzo Perrone, 1998), and reducing transaction costs and building long-term working relationship are most important concept of trust. Therefore, many scholars have focused on relationship between trust and transaction cost economies during past decades.

Opportunism strongly effects on performance of the inter-organizational cooperation whether it is perceived. If one member firm among cooperation firms willing to take advantage of cooperation business, it starts opportunism (Ring, P. S. and A. Van de Ven, 1994). Various factors are influenced on cause of increasing level of opportunism, and if the parties to exchange hold at least minimum level of trust in conduct business, level of opportunism cannot be higher (Augustine A. Lado, Rajiv R. Dant & Amanuel G. Tekleab, 2008). Even though, opportunism’s harmful risk would be determined to be higher, a high level of trust might engender greater commitment on the economic parties (Ring, 1996). William Q. Judge & Robert Dooley, (2006) found that trust was strongly impact on opportunistic behavior that did contractual safeguards. Our focus in this paper is opportunistic behavior’s negative effects are influenced to each exchanging actor, and its impact would be closely equal. Thus:

**Hypothesis 1: Higher level of opportunism is negatively and equally related to bilateral inter-organizational trust.**

If economic actors do not have opportunistic behavior, it will be more willing to share confidential information (Nishiguchi, 1994). In order to be confident for information flow inter-organizational cooperation firms’ trust level might be higher. Some of cases on low information sharing are related to higher costs new idea/technological because this kind of information could be used opportunistically. Quality of sharing information in inter-organizational cooperation is identified through cooperation working business success or problem solving situation. Inter-organizational relations’ main concept is based on cooperative outcome such as obtaining competitive advantage.
and creating new products or services or whatever. Consequence, this relationship must be lowest opportunistic behavior and highest trust for each actor since it has initiated. It would be influence confident information sharing process. For instance, trust is positively correlated with information sharing (Jeffrey H. Dyer & Wujin Chu, 2003), information sharing is negatively related to behavioral uncertainty and it increases the level of trust among partners (Kwon, I.W.J. and Suh, T., 2004). Thus:

Hypothesis 2: Greater information sharing by cooperation firms is positively and equally related with to bilateral inter-organizational trust.

Uncertainty situation is more harmful for decision-making and cooperation business. Environmental uncertainty results from changes in internal and external forces face to cooperation working. There is no way to anticipate or control this uncertainty’s result, and some scholars believe environmental uncertainty is unpredictable (Cameron, K. S., & Kim, M. U., & Whetten, D. A., 1987; Delacroix, J., & Swaminathan, A., 1991), and other some instability (Child, 1972). Thus inter-organizational business partners must be speed and responsive decisions against environmental changing risk (Mintzberg, 1978). Apparently, behavioral uncertainty is more harmful than environmental uncertainty for inter-organizational business, because all partners that are involved in the inter-organizational cooperation have own behavioral condition such as a person’s behavior. Solidarity is main concept for inter-organizational business, and if some of partners try to play by their own behavior, cooperation business value would be lost and increased opportunistic behavior. Inter-organizational trust can be beneficial in the presence of such uncertainty conditions both of behavioral and environmental, and it encourages partners to be confident for the business procedures (Akbar Zaheer, Bill McEvily and Vincenzo Perrone, 1998; Ranjay Gulati & Harbir Singh, 1998). Many scholars have found that behavioral and environmental uncertainty is directly and negatively related to inter-organizational trust (Rekha Krishnan, Xavier Martin & N. G. Noorderhaven, 2006). Some other studies have suggested that uncertainty provided a useful conceptual link to trust in economic exchange (Adobor, 2006), “trust cannot exist in an environment of certainty; if it did, it would do so trivially” (Bhattacharya, 1998), level of uncertainty is required for trust (Dasgupta, 1998), inter-organizational trust is greater under conditions of high uncertainty (Madhok, 1995) and high uncertainty only high trust can serve (Jay B. Barney and Mark H. Hansen, 1994). Thus:

Hypothesis 3: higher level of uncertainty is negatively and equally related to both sides’ trust.

An advantage of inter-organizational cooperation business is to combine valuable resources of firms that are joined in the cooperation, and to create new or unique resources and products. However, the firms are available to create new products or unique resources by themselves. On the high turbulence market, whether these firms cannot be as a high-speed innovator, they will easily able to lose their competitive advantage. Thus, in order to protect competitive advantage firms have joined in inter-organizational working business through their capabilities such as valuable resources, know-how, technology or knowledge etc.
The sharing of capabilities of a firm to other firms follows high risk whether the cooperation will be unsuccessful, the firm will lose all business know-how or other valuable resources. By this perspective, in order to be safety the cooperation firms’ transaction cost is higher (Williamson, 1985). Reducing this cost and believing partners will not use sharing capabilities against other partners are strongly related from inter-organizational trust level (Akbar Zaheer, Bill McEvily and Vincenzo Perrone, 1998; William Q. Judge & Robert Dooley, 2006).

**Hypothesis 4:** Capability by cooperation firms is positively and equally related to both sides’ high-level trust.

Lifetime of cooperation is depended on all parties’ satisfaction, and achievement or success of the cooperation business. Of course achievement is important for cooperation, but if there is low level of trust that will be continuing the cooperation work, any achievement cannot be important. This inter-organization trust has a main character of the Game theory perspective such that showed in figure 1. For instance, if all firms do want to extent the cooperation time, the cooperation working time is available to be for a long-term. Jan B. Heide & George John, (1992) suggested that cooperation time is as an iterated games perspective. Therefore, numerous of studies have been investigating inter-organizational trust and cooperation (Dorit Tubin & Miri Levin-Rozalis, 2008; Adobor, 2006; Sako, 1992; Eser.Z, 2012).

In this study, we focus on two sides’ trust equally affects to time framework of cooperation, and as ‘prisoner’s dilemma’ game (Rappaport, A. & Chammah, A. M, 1965). Such that mentioned the game, the cooperation time framework is associated with each party’s highest-level trust:

**Hypothesis 5:** Each side’s highest level of trust is positively and equally related to long-term cooperation.

4. Research design

4.1 Sample and data collection

The aim of this study’s empirical findings is to address the cooperation issues in Mongolian Small and Medium firms (SMEs) could be improved by inter-organizational trust. SMEs’ contribution is important phenomenon in economic development. For data collection, we distinguished SMEs from others, and used some constrainers, which are based on the Mongolian SMEs law such as: (1) a year sales must be lower than 1.5 billion “Tugrug (Tug)”, (2) a firm employees number must be lower than 200, and (3) several industries do not include into small and medium business such as alcohol and tobacco sales or manufacturing, gaming (e.g., auctioneer, casino, lotto), and banking and non-banking financial organization, and insurance.

Two different questionnaire are used for data collection, and all questionnaire were sent by e-mail and hand by hand to firms. Finally, total 411 firms (205 suppliers, 206 buyers) are responded for the questionnaire. Specifically, for buyers: average employees numbers are 21-50 people, average sales of a year are 101-200 millions ‘Tug’, and most frequented industries are manufacturing business (23.2 percent), and trade and service business (50.4 percent), and for suppliers: average employees numbers are 21-50 people, average sales of a year are 101-200 millions ‘Tug’, and most frequented industries are manufacturing business (19.2 percent), and trade and service business (54.9 percent).
4.2 Research methodology

Hierarchical ordinary least-squares regression analysis is used to test the hypotheses. Because of bilateral testing, two separate groups were observed in the study such as buyers and suppliers. Both groups are applied the same two step models such that: Step I is used two models as Model I is run by only control variables, as well as Model II is run on the relationship between IVs, control variables and DV (inter-organizational trust). In Step II, two models are run for analyzing such that Model I is run by only control variables, and Model II is run on the relationship between an IV (inter-organizational trust) and DV (long-term cooperation).

From Table 3 and Table 4, each model is run for hypotheses testing are showed that predictor variables explained significant percent of variance ($R^2$) in dependent variable inter-organizational trust and long-term cooperation. Therefore, Composite reliability was calculated using the procedures outlined by Fornell, C. and Larcker, D.F., (1981). For instance, items’ values were ranged from 0.54 to 0.80 for buyers’ trust analysis, and from 0.42 to 0.78 for suppliers.

4.3 Measurements

4.3.1 Long-term cooperation: We used four items on long-term cooperation four each analysis. Those items were measured on a five-point Likert-types scale. The scale was anchored from ‘strongly disagree’ (1) to ‘Strongly agree’ (5). The measure was a reliable of long-term cooperation with a Cronbach’s alpha equal to 0.544 (buyers) and 0.415 (suppliers).

4.3.2 TCE and Capability: Three dimensions of TCE are used here: (1) Uncertainty is measured by four items on buyers, and three items on suppliers; (2) Opportunistic behavior is measured by three items on each groups, (3) Information sharing is measured by three items on each groups. Therefore, capability is considered as an independent variable in the study. Four items on each group measure it. All of these items were measured on a five-point Likert-type Scale. The scale was anchored from ‘strongly disagree’ (1) to ‘Strongly agree’ (5). Measurement reliability is reported on the Table 1.

4.3.3 Inter-organizational trust: this variable is measured by four items on each groups, and measured on a five-point Likert-type Scale. The scale was anchored from ‘strongly disagree’ (1) to ‘Strongly agree’ (5). Measurement reliability is reported on the Table 1.

4.3.4 Control variable: For this study, four controller variables are used such as employee’s numbers, firm’s size, a year’s sales, and cooperation age. Firm’s size was measured by numbers of employees, a year’s sales were measured by asking interval options, cooperation age is measured by asking interval years, and industry sector was measured by asking options.

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Cronbach’s α</th>
<th>Factor loading</th>
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<tr>
<td></td>
<td>Buyer</td>
<td>Supplier</td>
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<td>Long-term cooperation</td>
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<td>0.415</td>
</tr>
<tr>
<td>Item 1</td>
<td>.657</td>
<td>.665</td>
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<td>Item 2</td>
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<td>Item 4</td>
<td>.572</td>
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<tr>
<td>Inter-organizational trust</td>
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<td>0.709</td>
</tr>
<tr>
<td>Item 1</td>
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<td>Item 2</td>
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<td>Item 3</td>
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<td>Item 4</td>
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5. Results

The confirmatory factor analysis of the underlying latent constructs produced the following ‘goodness of fit’ measures on the each group’s two steps. For step I of the buyers’ group, model fit indexes are such as: $\chi^2=157.5, 130$ degree of freedom; normed fit index (NFI)=0.90, comparative fit index (CFI)=0.98, and RMSEA=0.03, for model II of buyers’ group $\chi^2=33.5, 13$ degree of freedom; normed fit index (NFI)=0.93, comparative fit index (CFI)=0.96, RMSEA=0.08. At the same time, for step I of suppliers, model fit indexes are such as: $\chi^2=149.9, 114$ degree of freedom; normed fit index (NFI)=0.85, comparative fit index (CFI)=0.97, RMSEA=0.04, and for step II of suppliers: $\chi^2=33.5, 13$ degree of freedom; normed fit index (NFI)=0.86, comparative fit index (CFI)=0.90, RMSEA=0.10. All factor loadings on the specified factor were also significant at the 0.01 levels. These indicators show that the model-fit indexes have an excellent overall disposition. Correlation and descriptive statistics for all variables included in the models are presented in Table 2.

**Table 2. Descriptive statistics and correlations**

| Variables               | Mean  | S.D.  | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
|------------------------|-------|-------|------|------|------|------|------|------|------|------|------|------|
|                        | a     | b     | a    | a    | a    | b    | a    | a    | b    | a    | b    | a    |
| 1 Employees number     | 1.06  | 1.01  | 1.26 | 1.19 |      |      |      |      |      |      |      |      |
| 2 A year's sales       | 2.10  | 2.75  | 1.92 | 1.92 | 0.57* | 0.57* |      |      |      |      |      |      |
| 3 Industry sector      | 2.41  | 2.67  | 1.74 | 1.74 | 0.43* | 0.43* | 0.15* | 0.15* |      |      |      |      |
| 4 Cooperation age      | 2.73  | 2.64  | 1.06 | 1.06 | 0.47** | 0.47** | 0.07** | 0.07** | 0.07** | 0.07** |      |      |
| 5 Uncertainty          | 2.90  | 3.22  | 0.96 | 0.96 | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  |
| 6 Information sharing  | 3.77  | 3.65  | 0.91 | 0.91 | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  |
| 7 Opportunistic behavior | 3.99  | 3.61  | 1.02 | 1.02 | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  | 1.19  |
| 8 Long-term cooperation | 3.42  | 3.49  | 0.71 | 0.71 | 0.07  | 0.07  | 0.07  | 0.07  | 0.07  | 0.07  | 0.07  | 0.07  |
| 9 Inter-firm trust     | 3.54  | 3.52  | 0.79 | 0.79 | 0.11  | 0.11  | 0.11  | 0.11  | 0.11  | 0.11  | 0.11  | 0.11  |
| 10 Capability          | 3.72  | 3.76  | 0.51 | 0.51 | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  |

* p<0.05, ** p<0.01,  
(a-suppliers, b-buyers)

Table 3 and Table 4 display results of hypotheses testing. We found that higher-level opportunistic behavior is negatively related to buyers’ trust ($\beta=-0.10, p<0.10$), as well as suppliers’ trust ($\beta=-0.23, p<0.01$). Both of sides are considered that higher-level opportunistic behavior is negatively related to inter-organizational trust. Also, our results are showed that greater level information sharing was positively related with inter-organizational trust such with buyers’ trust ($\beta=0.56, p<0.01$), and
suppliers’ trust ($\beta=0.30$, $p<0.01$). By this result, we found hypothesis 2 was supported. Therefore, we found the results that capability was important factor of higher level inter-organizational trust such as capability is positively related to buyers’ trust ($\beta=0.64$, $p<0.01$), as well as suppliers’ trust ($\beta=0.57$, $p<0.01$). However, our focusing uncertainty was strong negative factor for inter-organizational trust. The study results were suggested that even both groups considered uncertainty (e.g., behavioral and environment) is negative factor, but not strong. Therefore, the results were not significant on the both suppliers and buyers.

**Table 3. Results of Hypotheses Testing**

<table>
<thead>
<tr>
<th>Variables</th>
<th>DV: Suppliers' trust</th>
<th>DV: Buyers' trust</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model I</td>
<td>Model II</td>
</tr>
<tr>
<td>Employees number</td>
<td>.21 (.39)</td>
<td>.13 (1.90)</td>
</tr>
<tr>
<td>A year's sales</td>
<td>-.22 (-2.60)</td>
<td>-.14 (-1.94)</td>
</tr>
<tr>
<td>Industry</td>
<td>-.01 (-.20)</td>
<td>.03 (.62)</td>
</tr>
<tr>
<td>Cooperation age</td>
<td>.15 (1.89)</td>
<td>.14 (2.26)</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>-.04 (-.55)</td>
<td>.02 (-.33)</td>
</tr>
<tr>
<td>Information sharing</td>
<td>.30 (4.37)**</td>
<td>.56 (9.47)**</td>
</tr>
<tr>
<td>Opportunistic behavior</td>
<td>-.23 (-3.33)**</td>
<td>-.10 (-1.44)*</td>
</tr>
<tr>
<td>Capability</td>
<td>.57 (10.09)**</td>
<td>.64 (11.65)**</td>
</tr>
</tbody>
</table>

$R^2$ | .06 | .41*** | .01 | .48*** |
$Adjusted R^2$ | .04 | .39*** | -.01 | .46*** |
$F$-value | 3.27 | 17.26*** | .33 | 22.77*** |

*.p<0.10, **.p<0.05, ***.p<0.01,

Our hypotheses were higher level bilateral trust would strongly and positively associated for long-term cooperation. In Table 4, long-term cooperation is positively related both sides’ higher level trust such as buyers’ trust ($\beta=0.53$, $p<0.01$), and suppliers’ trust $\beta=0.35$, $p<0.01$.

**Table 4. Results of Hypotheses Testing**

<table>
<thead>
<tr>
<th>Variables</th>
<th>DV: Long-term cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model I a</td>
</tr>
<tr>
<td>Employees number</td>
<td>.02 (.28)</td>
</tr>
<tr>
<td>A year's sales</td>
<td>.03 (.39)</td>
</tr>
<tr>
<td>Industry</td>
<td>-.07 (-.96)</td>
</tr>
<tr>
<td>Cooperation age</td>
<td>-.14 (-1.77)</td>
</tr>
<tr>
<td>Suppliers' trust</td>
<td>.35 (5.07)**</td>
</tr>
<tr>
<td>Buyers' trust</td>
<td>.53 (8.79)**</td>
</tr>
</tbody>
</table>

$R^2$ | .02 | .13*** | .02 | .29*** |
$Adjusted R^2$ | .00 | .11*** | .00 | .27*** |
$F$-value | .97 | 6.02*** | .79 | 16.31*** |

*.p<0.10, **.p<0.05, ***.p<0.01

6. Discussion

Present study findings provide that sustained inter-partner relationships can be important phenomenon in the today’s urgent market. A sustained cooperation is able to contribute various advantages for partner firms. For instance, establishing a new inter-partner relationship brings complicate issues (e.g., highly costs, partners’ behavioral uncertainty).

Among various components are (e.g., trust, commitment, communication, or engagement) related with inter-partner relationships, we focused on inter-organizational trust among many components
of inter-partner relationships in the study. Inter-organizational trust connects partner firms’ behavioral elements, and it is a similar situation with inter-personal trust (Zucker, 1986). In this study, ‘Prisoner’s Dilemma game’ (Rappaport, A. & Chammah, A. M, 1965) is used for inter-organizational bilateral trust. For instance, if all partners’ trust level is higher in an inter-partner relationship, all of them hope to continue the cooperation in future, as well as lowest level trust between all actors in a cooperation implicates shortly relationship or termination. Results of the study suggested that long-term cooperation is related to inter-partner bilateral trust (e.g., buyers and suppliers’ trust are positively associated).

According to new institutional economists’ position, transaction costs are a crucial part of inter-partner relationship (Williamson, 1985). In this study, our consideration was that transaction costs would be higher in emerging economics. In order to be shrunk down for an inter-partner relationship, trust level should be higher, and three dimensions of TCE are used in the study such as uncertainty, boundary rationality, and opportunistic behavior. Notwithstanding, the relationships of opportunistic behavior and information sharing with inter-organizational trust were through the study’s hypothesized assumptions. Both sides trust levels were negatively related with uncertainty (e.g., behavioral and environmental), but the effects of uncertainty were weak and not significantly. A motivator of inter-partners is capability, and it can gain bilateral inter-organizational trust (Barney J., 1991). In this study, we focused on the relationship between inter-organizational bilateral trust and partners’ capability.

This study offers several contributions to organizational studies. Most of previous studies have examined one-way trust. In this study, we focused on the inter-organizational bilateral trust (e.g., buyers and suppliers). Trust-based studies have been initially started since end of twenty century, and it is transferred from sociological theories to organizational and inter-partner relationships. Mutual trust is conceptualized as both parties’ honesty, integrity, reliability, responsibility, competence, likeability, and intentions (Xu Jiang, Shanxing Gao and Yuan Li, 2008), and it leads to effective cooperation (Kramer, 1999). Second, the study is conceptualized that inter-organizational bilateral trust has characteristics of the ‘Prisoner’s Dilemma game’ (Rappaport, A. & Chammah, A. M, 1965), and it is related to long-term cooperation. This game theory suggests that if an actor has higher opportunistic behavior, both actors cannot be non-guilty. Such this theory, partners are willing to continue the cooperation when both sides’ trust would be equal higher. Third, our empirical study was in an emerging market’s SMEs. From view of previous studies, most of empirical findings of inter-partner relationships have been focused on developed markets.

Number of limitations of the current research can be identified. First, we did not consider that inter-organizational trust is as a mediator or moderator variable on the construct. Our study aim was to address the question of how inter-organizational bilateral trust is influenced to long-term cooperation. Thus, we examined several factors, which are positively or negatively influenced to inter-organizational trust of buyers and suppliers, and both parties trust’s influencing for long-term cooperation. In future study, reasons of long-term cooperation is not necessary should be examined with inter-organizational bilateral trust. Second, in this study, we considered that trust is endogenous to an exchange, arising from conditions of the relationship such as goal compatibility,
shared values, information sharing, the absence of opportunism, and the quality of previous interactions (James C. Anderson & James A. Narus, 1990; David E. Morgan and Eachid Zeffane, 2003). In future studies, trust’s exogenous role should be considered by the same way of our framework. Trustworthiness is exogenous to exchanges, and it refers to the values, principles, and standards a trading partner brings to the exchange relationship. Finally, the research data were collected only from a country markets. Our data were only from Mongolian Small and Medium entrepreneurs. In future study, it should be collected from other markets, and compare with this study results.

7. Conclusion
The most basic conclusion that follows from this study is that inter-organizational bilateral trust is an important phenomenon for long-term cooperation. Particularly, firms should be tied by higher-level trust in developing market, and it could be helped reducing higher transactions costs and increasing learning from each other. Our findings suggested that whether partners’ trust can be such as reciprocal, these firms willing to continue the business cooperation.

References


